IN THE CLAIMS

Please amend the claims as follows:

1.   (Original) A data processing method for a data processing system comprising a
messaging service and a transaction service, the method comprising the steps of:

receiving a request, from a sender, to send an asynchronous message, comprising
        message data, to a queue, wherein the request is received under the scope of a
        transaction;

registering a definition for the queue, the definition providing details of an operation
        provided by the recipient; processing the request to send a message by delivering
        the message, prior to completion of the transaction, to a recipient which is
        registered with the messaging service to process messages from the queue
        wherein the message is delivered to the recipient by calling the operation and
        including details of the message;

receiving one or more requests to register involvement of one or more participants in the
        transaction, wherein each participant represents transactional work done as a
        result of the recipient processing the message; and

completing the transaction wherein the completing step comprises instructing each of the
        one or more participants to complete; whereby transactional work done, as a
        result of the recipient processing the message, is involved in the transaction under
        the scope of which the message was sent.

2.   (Original) A method as claimed in claim 1 wherein one of the one or more requests to
register involvement of one or more participants in the transaction, registers involvement
of the recipient as a participant in the transaction.

3.   (Original) A method as claimed in claim 2 wherein the request to register the
involvement of the recipient as a participant in the transaction includes details of the
queue, wherein the completing step instructs the recipient to complete by sending one or
more messages to the queue.

4.   (Original) A method as claimed in claim 2 wherein the request to register the involvement of the recipient as a participant in the transaction includes details of a second queue to the transaction wherein the completion step instructs the recipient to complete by sending one or more messages to the second queue.

5.   (Original) A method as claimed in claim 1 wherein the transaction is a first transaction and the method comprises the further step of:

processing the message by the recipient; wherein the step of processing of the message by the recipient comprises the steps of: informing a second transaction of the first transaction, details of which were included with the message; and

calling a second recipient and as part of the calling step passing the message data to the second recipient for processing under the scope of the second transaction.

6.   (Original) A method as claimed in claim 5 wherein the processing of the message by the recipient comprises the further step of:

starting the second transaction;

7.   (Original) A method as claimed in claim 5 wherein the processing of the message by the recipient comprises the further steps of: prior to calling the second recipient, registering as a temporary participant in the second transaction; and on return from calling the second recipient, unregistering as a temporary participant in the second transaction.

8.   (Original) A method as claimed in claim 7 wherein as part of the unregistering step a vote is passed to the second transaction, the vote comprising an indication as to whether the second transaction should commit or rollback.

9.   (Original) A method as claimed in claim 8 comprising the further step of:

in response to the unregistering step including a vote comprising an indication that the second transaction should rollback, marking the second transaction as rollback only.

10.   (Original) A method as claimed in claim 5 wherein the second transaction acts as a
        subordinate transaction to the transaction, details of which were included with the
        message.

11.   (Original) A method according to claim 5 wherein the second transaction acts as a nested
        transaction within the transaction, details of which were included with the message.

12.   (Currently Amended) A method as claimed in claim 8 wherein the second transaction
        acts as a ~~acts as a~~ nested transaction within the transaction, details of which were
        included with the message and the method comprises further the steps of:

        in response to the unregistering step including a vote comprising an indication that the
                second transaction should rollback: rolling back the second transaction; and
                restoring the message to the queue.

13.   (Original) A data processing system comprising a messaging service and a transaction
        service, the system comprising:

        means for the messaging service to receive a request, from a sender, to send an
                asynchronous message comprising message data to a queue, wherein the request
                is received under the scope of a transaction; means for registering a definition for
                the queue, the definition providing details of an operation provided by the
                recipient;
        means for the messaging service to process the request to send an asynchronous message
                by delivering the message, prior to completion of the transaction, to a recipient
                which is registered with the messaging service to process messages from the
                queue wherein the message is delivered to the recipient by calling the operation
                and including details of the message; means for the transaction service to receive
                a request to register involvement of a participant in the transaction, wherein the
                participant represents transactional work done as a result of the recipient
                processing the message; and
        means for the transaction service to complete the transaction comprising instructing each
                participant in the transaction to complete; whereby transactional work done, as a

result of the recipient processing the message, is involved in the transaction under the scope of which the message was sent.

14.   (Original) A data processing system as claimed in claim 13 wherein the means for receiving a request to register involvement of a participant in the transaction receives a request to register involvement of the recipient as a participant in the transaction.

15.   (Original) A data processing system as claimed in claim 14 wherein the request received to register the involvement of the recipient in the transaction includes details of the queue, wherein the means for completing the transaction instructs the recipient to complete by sending one or more messages to the queue.

16.   (Original) A data processing system as claimed in claim 14 wherein the request received to register the involvement of the recipient in the transaction includes details of a second queue, wherein the means for completing the transaction instructs the recipient to complete by sending one or more messages to the second queue.

17.   (Original) A data processing system as claimed in claim 13 wherein the recipient comprises:

means for informing a second transaction of the transaction, details of which were
         included with the message; and
means for calling a second recipient and as part of the calling step passing the message
         data to the second recipient for processing under the scope of the second
         transaction.

18.   (Original) A data processing system as claimed in claim 17 wherein the recipient further comprises:

means for starting the second transaction;

19.   (Original) A data processing system as claimed in claim 17 wherein the recipient further comprises:

means for registering as a temporary participant in the second transaction, prior to calling the second recipient; and

means for unregistering as a temporary participant in the second transaction, on return from calling the second recipient.

20.   (Original) A data processing system as claimed in claim 19 wherein the means for unregistering passes a vote to the second transaction, the vote comprising an indication as to whether the second transaction should commit or rollback.

21.   (Original) A data processing system as claimed in claim 20 further comprising:

means, responsive to means for unregistering step passing a vote comprising an indication that the second transaction should rollback, for marking the second transaction as rollback only.

22.   (Original) A data processing system as claimed in claim 17 wherein the second transaction acts as a subordinate transaction to the transaction, details of which were included with the message.

23.   (Original) A data processing system as claimed in claim 17 wherein the second transaction acts as a nested transaction within the transaction, details of which were included with the message.

24.   (Currently Amended) A data processing system as claimed in claim 20 wherein the second transaction acts as a acts-as-a nested transaction within the transaction, details of which were included with the message and the messaging system further comprises: means, responsive to the unregistering step including a vote comprising an indication that the second transaction should rollback, for: rolling back the second transaction; and

restoring the message to the queue.

25.   (Currently Amended) A computer program product comprising instructions <u>encoded in a computer readable medium,</u> which, when executed on a data processing host, cause the host <s>to carry</s> <u>to perform operations that comprise</u><s>out a method comprising the steps of</s>:

   receiving a request, from a sender, to send an asynchronous message, comprising
         message data, to a queue, wherein the request is received under the scope of a
         transaction; means for registering a definition for the queue, the definition
         providing details of an operation provided by the recipient;

   processing the request to send a message by delivering the message, prior to completion
         of the transaction, to a recipient which is registered with the messaging service to
         process messages from the queue wherein the message is delivered to the
         recipient by calling the operation and including details of the message;

   receiving one or more requests to register involvement of one or more participants in the
         transaction, wherein each participant represents transactional work done as a
         result of the recipient processing the message; and

   completing the transaction wherein the completing step comprises instructing each of the
         one or more participants to complete; whereby transactional work done, as a
         result of the recipient processing the message, is involved in the transaction under
         the scope of which the message was sent.

26.   (Original) A computer program product as claimed in claim 25 wherein one of the one or more requests to register involvement of one or more participants in the transaction, registers involvement of the recipient as a participant in the transaction.

27.   (Original) A computer program product as claimed in claim 26 wherein the request to register the involvement of the recipient as a participant in the transaction includes details of the queue, wherein the completing step instructs the recipient to complete by sending one or more messages to the queue.

28.   (Original) A computer program product as claimed in claim 26 wherein the request to register the involvement of the recipient as a participant in the transaction includes details

of a second queue to the transaction wherein the completion step instructs the recipient to
complete by sending one or more messages to the second queue.

29.   (Currently Amended) A computer program product as claimed in claim 25 wherein the
transaction is a first transaction and the <u>operations further comprise</u> method comprises the
further step of:

processing the message by the recipient;

wherein the step of processing of the message by the recipient comprises the steps of:

informing a second transaction of the first transaction, details of which were
included with the message; and

calling a second recipient and as part of the calling step passing the message data to the
second recipient for processing under the scope of the second transaction.

30.   (Currently Amended) A computer program product as claimed in claim 29 wherein the
processing of the message by the recipient comprises the further <u>operation</u> step of:

starting the second transaction;

31.   (Currently Amended) A computer program product as claimed in claim 29 wherein the
processing of the message by the recipient comprises the further <u>operations</u> steps of:

prior to calling the second recipient, registering as a temporary participant in the second
transaction; and

on return from calling the second recipient, unregistering as a temporary participant in the
second transaction.

32.   (Currently Amended) A computer program product as claimed in claim 31 wherein as
part of the unregistering <u>operation</u> step a vote is passed to the second transaction, the vote
comprising an indication as to whether the second transaction should commit or rollback.

33.   (Currently Amended) A computer program product as claimed in claim 32, <u>wherein the</u>
<u>operations further comprise</u> the method comprising the further step of:

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 10/666,793
Filing Date: Sep 18, 2003
Title: SYSTEM AND METHOD FOR MANAGING TRANSACTIONS IN A MESSAGING SYSTEM
Assignee: International Business Machines Corporation

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Dkt: GB920020065US1

in response to the unregistering step including a vote comprising an indication that the
second transaction should rollback, marking the second transaction as rollback
only.

34.   (Original) A computer program product as claimed in claim 29 wherein the second
transaction acts as a subordinate transaction to the transaction, details of which were
included with the message.

35.   (Original) · A computer program product according to claim 29 wherein the second
transaction acts as a nested transaction within the transaction, details of which were
included with the message.

36.   (Currently Amended) A computer program product as claimed in claim 32 wherein the
second transaction acts as a ~~acts as a~~ nested transaction within the transaction, details of
which were included with the message and the method comprises further the steps of:

in response to the unregistering step including a vote comprising an indication that the
second transaction should rollback: rolling back the second transaction; and
restoring the message to the queue.